CHAPTER 1

VIRGINIA STORMWATER MANAGEMENT PROGRAM

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1-1 INTRODUCTION

This Handbook has been developed by the Virginia Department of Conservation and Recreation (DCR) to provide basic guidance for compliance with the Virginia Stormwater Management Regulations. (4VAC3-20 et seq.) The technical material provided within represents some of the more basic types of hydrologic and hydraulic analysis procedures, mostly derived from SCS sources such as the SCS National Engineering Handbook (NEH), and the SCS Engineering Field Manual (EFM), and others. The science of stormwater management analysis is very broad and in no way are the methods and procedures presented here intended to represent the only acceptable way of preparing a stormwater management plan.

Chapter 1: Virginia Stormwater Management Program, provides an overview of the various State regulations which address water quality and nonpoint source pollution, as well as the interrelationship among the agencies.

Chapter 2: Stormwater Management and Urban BMPs, presents the basic components of stormwater management, as found in the Virginia SWM Regulations, and follows them through the BMP sizing and selection criteria. Most importantly, this Chapter 2 presents the basics of Regional Stormwater Management and Comprehensive Watershed Management.

Chapter 3: Minimum Standards, provides the technical design requirements and specifications, and maintenance requirements for stormwater BMPs defined in the Regulations. These criterion were derived from available sources such as the Northern Virginia BMP Handbook, Hampton Roads BMP Handbook, and various other publications, including those from the Metropolitan Washington Council of Governments and the Center for Watershed Protection. These minimum standards represent current, and in some cases innovative, design information pulled together under one cover in order to promote consistency in the design and construction, and therefore the effectiveness, of stormwater BMPs. These BMPs include:

3.01 Earthen Embankments
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3.04 Sediment Forebay
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3.07 Extended Detention Basin
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3.13 Grassed Swale
3.14 Vegetated Filter Strip
3.15 Manufactured BMP Systems

Chapter 4: Hydrologic Methods, presents four methods for conducting a hydrologic analysis and determining the peak discharge from a watershed or drainage area. These methods include the Rational Method, Modified Rational Method, SCS TR-55 Graphical Peak Discharge Method and Tabular Hydrograph Method. Also included is a basic overview of various types of design hydrographs used in stormwater modeling.

Chapter 5: Engineering Calculations, provides very detailed calculation procedures for designing an impoundment BMP using standard hydraulic equations. These procedures include storage volume requirements, water quality and channel erosion control volume calculations, extended detention calculations, principal spillway and emergency spillway design, anti-seep collar design, outlet protection, riser floatation calculations, and water quality calculation procedures.

Chapter 6: Example Problems, provides some design examples including hydrologic and hydraulic analyses.

1-2 VIRGINIA STORMWATER MANAGEMENT PROGRAM

The 1998 amendments to the Virginia Stormwater Management (SWM) Regulations (4 VAC 3-20-10 et. seq.) reflect an on-going evolution in the definition and role of stormwater management. The initial goal of the amendment was to develop a more "user friendly" regulation; one which allowed flexibility for local program adoption, while also maintaining a solid framework of technical criteria. During the amendment process, legislative studies on the efficiency and consistency of the stormwater management and permitting policies of the Commonwealth provided additional guidance in the area of regulatory consistency. Providing consistent technical criteria for the water quality related programs in Virginia soon became a goal as well. To satisfy the these two goals, the technical criteria within the amended SWM regulations is divided into components: *Water Quality*, *Stream Channel Erosion*, and *Flooding*.

Water Quality

The water quality component reflects consistency between the Virginia SWM Regulations (DCR), The Chesapeake Bay Preservation Act (CBPA) and regulations (CBLAD), and the Virginia Pollution Discharge Elimination System (VPDES) permit (DEQ).

The reader should note that the land disturbing thresholds for compliance with these other water quality programs are independent of the SWM regulations: A VPDES permit is required for various industrial activities (including construction activities of 5 acres or more) and CBPA local regulatory compliance is required for projects of a certain size and/or in certain locations (refer to the local ordinance). Once it is determined that compliance with one of these water quality related programs is required, then the stormwater management regulations technical criteria for water quality (4 VAC 3-20-11) provides the consistent criteria for compliance.

Stream Channel Erosion

The stream channel erosion component of the SWM Regulations (4 VAC 3-20-81) incorporates the technical provisions of stormwater runoff component of the Erosion and Sediment Control Regulations (Minimum Standard 19, 4 VAC 50-30-40.19) as required by law. This component will be the subject of significant scrutiny as we try to further develop an appropriate technical criteria for stream channel erosion control. The challenge is the variable nature of stream channel hydraulics and hydrologic modeling. As the technical criteria is expanded to define the analysis and required solutions, we lose the emphasis on the engineers' ability and responsibility to determine the appropriate level of design for stream channel protection. An alternative would be to simply require that "downstream channels and properties be protected from erosion and damage due to increase in volume, velocity, and peak flow rate". The engineer would then be responsible for determining what level of control is needed to satisfy the requirement. On the other hand, requiring a full analysis of

the channel geomorphology in order to establish the protection criteria would probably be too complex of an analysis, with few people qualified to review it.

The amended SWM regulations provide an alternative design criteria that has been found to be more effective in preventing downstream channel erosion: extended detention of the runoff from the 1-year frequency 24-hour storm. This criteria effectively reduces the runoff flow rate and velocity from a wide range of storms to less than the critical velocity. Further updates and guidance on the channel erosion component will be provided.

Flexible Adoption

The most significant amendment to the regulations is the flexible adoption of the stormwater components. A locality may now adopt individual components for local implementation. During the development of these amendments, this flexible adoption was referred to as a *cafeteria style* approach: choose the desired components from the "menu" of options. **However, any local SWM program adopted pursuant to the Stormwater Management Law (Title 10.1, Chapter 6, Article 1.1) must, at a minimum, contain the Flooding component (4VAC3-20-85).**

Administrative Procedures and Reporting

Other elements within the Regulations which caused concern on the part of localities interested in adopting a program were the Administrative Procedures which address stormwater management plan submission and review, and local program reporting. DCR acknowledged that our intent is not to supersede any local program development review process. State law does mandate a maximum review time of 60 days, with communication of the review to the applicant in writing. A survey of local program administrative procedures indicated that the actual review times, whether as required by local ordinance or by the level of development, were actually much less than the required 60 day maximum.

The issue of local program reporting was evaluated in light of the General Assembly requirement of an annual report on the extent to which local stormwater management programs have reduced nonpoint source pollution and mitigated the effects of localized flooding. Local government officials were wary of a reporting burden draining available staff time. DCR reviewed the type of information which was needed to compile the annual report to the General Assembly and determined the level of reporting to be a simple accounting of stormwater BMPs approved through the development review process or otherwise implemented in the locality. Additional information, such as monitoring studies, regional watershed plan studies and implementation, are certainly considered helpful in compiling a report to the General Assembly, however, not every locality will have such information. Again, a local program survey indicated that most existing local review and approval procedures do contain a simple accounting of what has been approved. Therefore, DCR amended the Reporting section of the Regulations (4VAC3-20-251) to ask local programs to voluntarily submit an annual report to the Department, as well as indicate the type of information which would be appropriate. The basis for this was that if most local programs are already compiling the type of

information needed for the annual report, as the local program survey indicated, than the reporting of that information should not be burden. For localities that are just starting a program, DCR will commit to providing a simple record keeping system to help document the stormwater management BMPs and associated information.

In summary, the amendments to the Stormwater Management Regulations have made the adoption of a local program extremely simple and unburdonsome. Consider a local government currently operating, as required by law, an Erosion and Sediment Control Program with MS-19 requirements, and a Chesapeake Bay Preservation Act (CBPA) ordinance. MS-19 requirements satisfy the Stream Channel Erosion component of the Stormwater Management Regulations, and the water quality provisions within the CBPA ordinance satisfy the water quality component of the Stormwater Regulations. If the locality also has a flood control requirement (10-year storm, 25-year storm, etc.), than that locality is in full compliance with the State minimum technical requirements for a local stormwater management program. Without changing any of the actual duties or requirements mandated by the local ordinance, the locality may simply reference the authority for their combined program as the Virginia Stormwater Management Law, and thereby operate under the simple umbrella of enabling authority offered by the Stormwater Management Law. (It may be advisable to consolidate the various components into one section or chapter of the local ordinance for simplicity.)

There are many variations of the above example where localities are currently operating under fragmented enabling authority, and can now amend their ordinance to reference the Stormwater Management Law. The Department will periodically review these programs to insure consistency in implementation. The purpose of the review is to help the Department promote consistency in stormwater management policies across the commonwealth, as directed by the General Assembly, as well as help the local program maintain effective implementation of the technical criteria.

State Agency Compliance with Local Programs

Another incentive for local programs to adopt a State Stormwater Management Program is the ability to require state agency projects to comply with the local requirements. This can be especially important if a regional (watershed-wide) plan has been adopted. The Regulations allow for a local program to request, in writing, that the Department consider the local program requirements when reviewing state agency plans. Further, the regulations require that state agencies, to the maximum extent practicable, comply with any local stormwater management program technical criteria adopted pursuant to the Act, and that it shall be the responsibility of the state agency to demonstrate that the local program requirements are not practical for the project under consideration. (4VAC3-20-210).

Experience has indicated that this cooperation between local programs and state agencies has resulted in a win-win deal for the locality and the state agency, and in most cases resulted in more effective BMP implementation. Localities must notify DCR of their desire to have state agency plans comply with the local program technical requirements or investigate participating in a local regional SWM program.

1-3 VIRGINIA STORMWATER MANAGEMENT LAW and REGULATIONS

The following is the complete, edited text of Title 10.1, Chapter 6, Article 1.1 of the Code of Virginia as amended through 1998. Please refer to the Code of Virginia for an official copy of the Law.

§ 10.1-603.1. Cooperative state-local program.

The General Assembly has determined that the lands and waters of the Commonwealth are great natural resources; that as a result of intensive land development and other land use conversions, degradation of these resources frequently occurs in the form of water pollution, stream channel erosion, depletion of groundwater resources, and more frequent localized flooding; that these impacts adversely affect fish, aquatic life, recreation, shipping, property values and other uses of lands and waters; that existing authorities under the Code of Virginia do not adequately address all of these impacts. Therefore the General Assembly finds it in the public interest to enable the establishment of stormwater management programs.

§ 10.1-603.2. Definitions.

As used in this article, unless the context requires a different meaning:

"Applicant" means any person submitting a stormwater management plan for approval.

"Board" means the Board of Conservation and Recreation.

"Department" means the Department of Conservation and Recreation.

"Flooding" means a volume of water which is too great to be confined within the banks or walls of the stream, water body or conveyance system and which overflows onto adjacent lands, causing or threatening damage.

"Land development" or *"land development project"* means a manmade change to the land surface that potentially changes its runoff characteristics.

"Linear development project" means a land development project that is linear in nature such as, but not limited to, (I) the construction of electric and telephone utility lines, and natural gas pipelines; (ii) construction of tracks, rights-of-way, bridges, communication facilities and other related structures of a railroad company; and (iii) highway construction projects.

"Local stormwater management program" or "local program" means a statement of the various methods employed by a locality to manage the runoff from land development projects and may include such items as local ordinances, policies and guidelines, technical materials, inspection, enforcement, and evaluation.

"Nonpoint source pollution" means pollution whose sources cannot be pinpointed but rather is washed from the land surface in a diffuse manner by stormwater runoff.

"Runoff" means that portion of precipitation that is discharged across the land surface or through conveyances to one or more waterways.

"Stormwater management plan" or *"plan"* means a document containing material for describing how existing runoff characteristics will be maintained by a land development project.

"Subdivision" means the same as defined in §15.1-465.

"Watershed" means a defined land area drained by a river or stream or system of connecting rivers or streams such that all surface water within the area flows through a single outlet.

§ 10.1-603.3. Counties, cities and towns may by ordinance establish stormwater management programs as a local option; effective date

Each locality may, by ordinance, to be effective on or after July 1, 1990, establish a local stormwater management program which shall include, but is not limited to, the following:

1. Consistency with regulations promulgated in accordance with provisions of this article;

2. Provisions for long-term responsibility for and maintenance of stormwater management control devices and other techniques specified to manage the quality and quantity of runoff; and

3. Provisions for the integration of locally adopted stormwater management programs with local erosion and sediment control, flood insurance, flood plain management and other programs requiring compliance prior to authorizing construction in order to make the submission and approval of plans, issuance of permits, payment of fees, and coordination of inspection and enforcement activities more convenient and efficient both for the local governments and those responsible for compliance with the programs.

§ 10.1-603.4. Development of regulations.

The Board is authorized to promulgate regulations which specify minimum technical criteria and administrative procedures for stormwater management programs in Virginia. In order to inhibit the deterioration of existing waters and waterways, the regulations shall:

1. Require that state and local programs maintain after-development runoff rate of flow, as nearly as practicable, as the pre-development runoff characteristics;

2. Establish minimum design criteria for measures to control nonpoint source pollution and

localized flooding, and incorporate the stormwater management regulations promulgated pursuant to the Virginia Erosion and Sediment Control Law, Article 4 (§10.1-560 et seq.) of Chapter 5 of this title, as they relate to the prevention of stream channel erosion. These criteria shall be periodically modified as required in order to reflect current engineering methods;

3. Require the provision of long-term responsibility for and maintenance of stormwater management control devices and other techniques specified to manage the quality and quantity of runoff; and

4. Require as a minimum the inclusion in local programs of certain administrative procedures which include, but are not limited to, specifying the time period within which a local government which has adopted a stormwater management program must grant written approval of a plan, the conditions under which approval shall be granted, the procedures for communicating disapproval, the conditions under which an approved plan may be changed and requirements for inspection of approved projects.

§ 10.1-603.5. State agency projects.

A. After January 1, 1991, a state agency may not undertake any land clearing, soil movement, or construction activity involving soil movement or land development unless the agency has submitted and obtained approval of a stormwater management plan from the Department. In lieu of such a plan, the agency may annually submit stormwater management standards and specifications.

B. Notwithstanding the provisions of this article, all state agencies shall comply with the stormwater management provisions of the Erosion and Sediment Control Law, Article 4 (§10.1-560 et seq.) of Chapter 5 of this title, and related regulations. The Department shall perform random site inspections to assure compliance with this article, the Erosion and Sediment Control Law and regulations promulgated thereunder.

C. The Department shall have thirty days in which to comment on the stormwater management plan, and its recommendations shall be binding on the state agency or the private business hired by the state agency. Individual approval of separate projects is not necessary when annually approved standards and specifications have been approved.

As on-site changes occur, the state agency shall submit changes in the stormwater management plan to the Department.

The state agency responsible for the land-disturbing activity shall ensure compliance with the approved plan or specifications.

§ 10.1-603.6. Involvement of the Department with local programs.

A. The Department shall provide technical assistance, training, research, and coordination in stormwater management technology to the local governments consistent with the purposes of this article.

B. The Department is authorized to review the plan for any project with real or potential interjurisdictional impacts upon the request of one of the involved localities to determine that the plan is consistent with the provisions of this article. Any such review shall be completed and a report submitted to each locality involved within ninety days of such request.

§ 10.1-603.7. Authorization for more stringent regulations.

Localities are authorized to adopt more stringent stormwater management regulations than those necessary to ensure compliance with the Board's minimum regulations, with the exception of regulations related to plan approval, provided that the more stringent regulations are based upon the findings of local comprehensive watershed management studies and that prior to adopting more stringent regulations a public hearing is held after giving due notice.

§ 10.1-603.8. Regulated activities; submission and approval of a control plan; security for performance; exemptions.

A. Except as provided in §10.1-603.5, after the adoption of a local ordinance, a person shall not develop any land for residential, commercial, industrial, or institutional use in that locality until he has submitted a stormwater management plan to the locality that has jurisdiction and has obtained approval of the plan from that locality. The plan may include appropriate maps, mathematical calculations, detail drawings and a listing of all major decisions to assure that the entire unit or units of land will be so treated to achieve the objectives of the local program. Prior to issuance of any permit, the locality may also require an applicant to submit a reasonable performance bond with surety, cash escrow, letter of credit, any combination thereof, or such other legal arrangement acceptable to the locality, to ensure that measures could be taken by the locality at the applicant's expense should he fail, after proper notice, within the time specified to initiate or maintain appropriate actions which may be required of him by the approved stormwater management plan as a result of his land-development project. If the locality takes such action upon such failure by the applicant, the agency may collect from the applicant for the difference should the amount of the reasonable cost of such action exceed the amount of the security held. Within sixty days of the completion of the requirements of the approved stormwater management plan, such bond, cash escrow, letter of credit or other legal arrangement, or the unexpended or unobligated portion thereof, shall be refunded to the applicant or terminated. These requirements are in addition to all other provisions of law relating to the issuance of such plans and are not intended to otherwise affect the requirements for such plans.

B. Notwithstanding any other provisions of this article, the following activities are exempt:

1. Permitted surface or deep mining operations and projects, or oil and gas operations and projects conducted under the provisions of Title 45.1;

2. Tilling, planting or harvesting of agricultural, horticultural, or forest crops;

3. Single-family residences separately built and not part of a subdivision, including additions or modifications to existing single-family detached residential structures;

4. Land development projects that disturb less than one acre of land area; however, the governing body of a locality which has adopted a stormwater management program may reduce this exception to a smaller area of disturbed land or qualify the conditions under which this exception shall apply; and

5. Linear development projects, provided that (I) less than one acre of land will be disturbed per outfall or watershed, (ii) there will be insignificant increases in peak flow rates, and (iii) there are no existing or anticipated flooding or erosion problems downstream of the discharge point.

§ 10.1-603.9. Approved plan required for issuance of grading, building, or other permits.

Upon the adoption of a local ordinance no grading, building or other permit shall be issued for a property unless a stormwater management plan has been approved that is consistent with the local program and this article and unless the applicant has certified that all land clearing, construction, land development and drainage will be done according to the approved plan.

§ 10.1-603.10. Recovery of administrative costs.

Any locality which administers a stormwater management program may charge applicants a reasonable fee to defray the cost of program administration, including costs associated with plan review, issuance of permits, periodic inspection for compliance with approved plans, and necessary enforcement, provided that charges for such costs are not made under any other law, ordinance or program. The fee shall not exceed an amount commensurate with the services rendered and expenses incurred or $1,000, whichever is less.

§ 10.1-603.11. Monitoring, reports and inspections.

A. The plan-approving authority or, if a permit is issued in connection with land-disturbing activities which involve the issuance of a grading, building, or other permit, the permit-issuing authority (I) shall provide for periodic inspections of the installation of stormwater management measures and (ii) may require monitoring and reports from the person responsible for carrying out the plan, to ensure compliance with the approved plan and to determine whether the measures required in the

plan provide effective stormwater management. The owner, occupier or operator shall be given notice of the inspection and an opportunity to accompany the inspectors. If the permit-issuing authority or plan-approving authority determines that there is a failure to comply with the plan, notice shall be served upon the permittee or person responsible for carrying out the plan by registered or certified mail to the address specified in the permit application or in the plan certification, or by delivery at the site of the development activities to the agent or employee supervising such activities. Where the plan-approving authority serves notice, a copy of the notice shall also be sent to the issuer of the permit. The notice shall specify the measures needed to comply with the plan and shall specify the time within which such measures shall be completed. Upon failure to comply within the time specified, the permit may be revoked and the permittee or person responsible for carrying out the plan shall be deemed to be in violation of this article and upon conviction shall be subject to the penalties provided by §10.1-603.14.

B. Notwithstanding subsection A of this section, the following may be applied:

1. Where a county, city, or town administers the local control program and the permit-issuing authority and the plan-approving authority are not within the same local government department, the locality may designate one department to inspect, monitor, report and ensure compliance.

2. Where a permit-issuing authority has been established, and such authority is not vested in an employee or officer of local government but in the commissioner of revenue or some other person, the locality shall exercise the responsibilities of the permit-issuing authority with respect to monitoring, reports, inspections, and enforcement unless such responsibilities are transferred as provided for in this section.

§ 10.1-603.12. Department to review local and state agency programs.

A. The Department shall periodically conduct a comprehensive review and evaluation of the effectiveness of each local government's and state agency's stormwater management program. The review shall include an assessment of the extent to which the program has reduced nonpoint source pollution and mitigated the detrimental effects of localized flooding. A summary of these reviews and evaluations shall be submitted annually to the General Assembly.

B. If, after such a review and evaluation, a local government is found to have a program which does not comply with the provisions of this article or regulations promulgated thereunder, the Department may issue an order requiring that necessary corrective action be taken within a reasonably prescribed time.

§ 10.1-603.13. Appeals of decisions of counties, cities or towns.

A. An appeal from a decision of a locality concerning an application for approval or disapproval of a stormwater management plan may be taken by the applicant, or any aggrieved party authorized

by law, within thirty days after the rendering of such a decision of the locality, to the circuit court of the jurisdiction in which the land development project is located.

B. Judicial review shall be on the record previously established and shall otherwise be in accordance with the provisions of the Administrative Process Act (§9-6.14:1 et seq.).

§ 10.1-603.14. Penalties, injunctions and other legal actions.

Any person who violates any provision of a local ordinance or program adopted pursuant to the authority of this article shall be guilty of a misdemeanor and shall be subject to a fine not exceeding $1,000 or up to thirty days imprisonment for each violation or both. Such a local ordinance may also include the following sanctions:

1. A locality operating its own program may apply to the circuit court in any jurisdiction wherein the land lies to enjoin a violation or a threatened violation of the provisions of this article or of the local ordinance without the necessity of showing that an adequate remedy at law does not exist.

2. Without limiting the remedies which may be obtained in this section, a locality operating its own program may bring a civil action against any person for violation of any ordinance or any condition of a permit, or any provision of a local program adopted pursuant to this article. The action may seek the imposition of a civil penalty of not more than $2,000 against the person for each violation.

3. With the consent of any person who has violated or failed, neglected or refused to obey any ordinance or any condition of a permit or any provision of a local program adopted pursuant to this article, the administrator of the local program may provide, in an order issued by the administrator against such person, for the payment of civil charges for violations in specific sums, not to exceed the limit specified in subdivision 2 of this section. Such civil charges shall be instead of any appropriate civil penalty which could be imposed under subdivision 2.

§ 10.1-603.15. Cooperation with federal and state agencies.

Localities operating their own programs and the Department are authorized to cooperate and enter into agreements with any federal or state agency in connection with plans for stormwater management.

1-4 VIRGINIA STORMWATER MANAGEMENT REGULATIONS

The following is a complete text of the Virginia Stormwater Management Regulations 4VAC3-20 amended by the Board of Conservation and Recreation, effective March 5, 1998

PART I.
GENERAL.

4 VAC 3-20-10. Definitions.

The following words and terms used in this chapter have the following meanings, unless the context clearly indicates otherwise.

"Act" means Article 1.1 (§ 10.1-603.1 et seq.) of Chapter 6 of Title 10.1 of the Code of Virginia.

"Adequate channel" means a channel that will convey the designated frequency storm event without overtopping the channel banks nor causing erosive damage to the channel bed or banks.

"Applicant" means any person submitting a stormwater management plan for approval.

"Aquatic bench" means a 10- to 15-foot wide bench around the inside perimeter of a permanent pool that ranges in depth from zero to 12 inches. Vegetated with emergent plants, the bench augments pollutant removal, provides habitats, conceals trash and water level fluctuations, and enhances safety.

"Average land cover condition" means a measure of the average amount of impervious surfaces within a watershed, assumed to be 16%. Note that a locality may opt to calculate actual watershed-specific values for the average land cover condition based upon 4 VAC 3-20-101.

"Best management practice (BMP)" means a structural or nonstructural practice which is designed to minimize the impacts of development on surface and groundwater systems.

"Bioretention basin" means a water quality BMP engineered to filter the water quality volume through an engineered planting bed, consisting of a vegetated surface layer (vegetation, mulch, ground cover), planting soil, and sand bed, and into the in-situ material.

"Bioretention filter" means a bioretention basin with the addition of a sand filter collector pipe system beneath the planting bed.

"Board" means the Board of Conservation and Recreation.

"Channel" means a natural or manmade waterway.

"Constructed wetlands" means areas intentionally designed and created to emulate the water quality improvement function of wetlands for the primary purpose of removing pollutants from stormwater.

"Department" means the Department of Conservation and Recreation.

"Development" means a tract of land developed or to be developed as a unit under single ownership or unified control which is to be used for any business or industrial purpose or is to contain three or more residential dwelling units.

"Director" means the Director of the Department of Conservation and Recreation.

"Flooding" means a volume of water that is too great to be confined within the banks or walls of the stream, water body or conveyance system and that overflows onto adjacent lands, causing or threatening damage.

"Grassed swale" means an earthen conveyance system which is broad and shallow with erosion resistant grasses and check dams, engineered to remove pollutants from stormwater runoff by filtration through grass and infiltration into the soil.

"Impervious cover" means a surface composed of any material that significantly impedes or prevents natural infiltration of water into soil. Impervious surfaces include, but are not limited to, roofs, buildings, streets, parking areas, and any concrete, asphalt, or compacted gravel surface.

"Infiltration facility" means a stormwater management facility which temporarily impounds runoff and discharges it via infiltration through the surrounding soil. While an infiltration facility may also be equipped with an outlet structure to discharge impounded runoff, such discharge is normally reserved for overflow and other emergency conditions. Since an infiltration facility impounds runoff only temporarily, it is normally dry during nonrainfall periods. Infiltration basin, infiltration trench, infiltration dry well, and porous pavement shall be considered infiltration facilities.

"Inspection" means an on-site review of the project's compliance with the approved plan, the local stormwater management program, and any applicable design criteria.

"Land development" or *"land development project"* means a manmade change to, or construction on, the land surface, except as exempted in the Stormwater Management Act, § 10.1-603.8 B of the Code of Virginia, that changes its runoff characteristics.

"Linear development project" means a land development project that is linear in nature such as, but not limited to, (i) the construction of electric and telephone utility lines, and natural gas pipelines; (ii) construction of tracks, rights-of-way, bridges, communication facilities and other related structures of a railroad company; and (iii) highway construction projects.

"Local stormwater management program" or *"local program"* means a statement of the various methods adopted pursuant to the Act and implemented by a locality to manage the runoff from land development projects and shall include an ordinance with provisions to require the control of after-development stormwater runoff rate of flow, the proper maintenance of stormwater management facilities, and minimum administrative procedures consistent with this chapter.

"Locality" means a county, city, or town.

"Nonpoint source pollution" means contaminants such as sediment, nitrogen and phosphorous, hydrocarbons, heavy metals, and toxics whose sources cannot be pinpointed but rather are washed from the land surface in a diffuse manner by stormwater runoff.

"Nonpoint source pollutant runoff load" or *"pollutant discharge"* means the average amount of a particular pollutant measured in pounds per year, delivered in a diffuse manner by stormwater runoff.

"Percent impervious" means the impervious area within the site divided by the area of the site multiplied by 100.

"Person" means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, county, city, town or other political subdivision of the Commonwealth, any interstate body or any other legal entity.

"Planning area" means a designated portion of the parcel on which the land development project is located. Planning areas shall be established by delineation on a master plan. Once established, planning areas shall be applied consistently for all future projects.

"Post-development" refers to conditions that reasonably may be expected or anticipated to exist after completion of the land development activity on a specific site or tract of land.

"Pre-development" refers to the conditions that exist at the time that plans for the land development of a tract of land are approved by the plan approval authority. Where phased development or plan approval occurs (preliminary grading, roads and utilities, etc.), the existing conditions at the time *prior to* the first item being approved or permitted shall establish pre-development conditions.

"Regional (watershed-wide) stormwater management facility" or *"regional facility"* means a facility or series of facilities designed to control stormwater runoff from a specific watershed, although only portions of the watershed may experience land development.

"Regional (watershed-wide) stormwater management plan" or *"regional plan"* means a document containing material describing how runoff from open space, existing development and future planned development areas within a watershed will be controlled by coordinated design and implementation of regional stormwater management facilities.

"Runoff" or *"stormwater runoff"* means that portion of precipitation that is discharged across the land surface or through conveyances to one or more waterways.

"Sand filter" means a contained bed of sand which acts to filter the first flush of runoff. The runoff is then collected beneath the sand bed and conveyed to an adequate discharge point or infiltrated into the in-situ soils.

"Shallow marsh" means a zone within a stormwater extended detention basin that exists from the surface of the normal pool to a depth of six to 18 inches, and has a large surface area and, therefore, requires a reliable source of baseflow, groundwater supply, or a sizeable drainage area,

to maintain the desired water surface elevations to support emergent vegetation.

"Site" means the parcel of land being developed, or a designated planning area in which the land development project is located.

"State project" means any land development project which is undertaken by any state agency, board, commission, authority or any branch of state government, including state supported institutions of higher learning.

"Stormwater detention basin" or *"detention basin"* means a stormwater management facility which temporarily impounds runoff and discharges it through a hydraulic outlet structure to a downstream conveyance system. While a certain amount of outflow may also occur via infiltration through the surrounding soil, such amounts are negligible when compared to the outlet structure discharge rates and are, therefore, not considered in the facility's design. Since a detention facility impounds runoff only temporarily, it is normally dry during nonrainfall periods.

"Stormwater extended detention basin" or *"extended detention basin"* means a stormwater management facility which temporarily impounds runoff and discharges it through a hydraulic outlet structure over a specified period of time to a downstream conveyance system for the purpose of water quality enhancement or stream channel erosion control. While a certain amount of outflow may also occur via infiltration through the surrounding soil, such amounts are negligible when compared to the outlet structure discharge rates and, therefore, are not considered in the facility's design. Since an extended detention basin impounds runoff only temporarily, it is normally dry during nonrainfall periods.

"Stormwater extended detention basin-enhanced" or *"extended detention basin-enhanced"* means an extended detention basin modified to increase pollutant removal by providing a shallow marsh in the lower stage of the basin.

"Stormwater management facility" means a device that controls stormwater runoff and changes the characteristics of that runoff including, but not limited to, the quantity and quality, the period of release or the velocity of flow.

"Stormwater management plan" or *"plan"* means a document containing material for describing how existing runoff characteristics will be affected by a land development project and methods for complying with the requirements of the local program or this chapter.

"Stormwater retention basin" or *"retention basin"* means a stormwater management facility which includes a permanent impoundment, or normal pool of water, for the purpose of enhancing water quality and, therefore, is normally wet, even during nonrainfall periods. Storm runoff inflows are may be temporarily stored above this permanent impoundment for the purpose of reducing flooding, or stream channel erosion.

"Stormwater retention basin I" or *"retention basin I"* means a retention basin with the volume of the permanent pool equal to three times the water quality volume.

"Stormwater retention basin II" or *"retention basin II"* means a retention basin with the volume of the permanent pool equal to four times the water quality volume.

"Stormwater retention basin III" or *"retention basin III"* means a retention basin with the volume of the permanent pool equal to four times the water quality volume with the addition of an aquatic bench.

"Subdivision" unless otherwise defined in a local ordinance adopted pursuant to § 15.1-465 of the Code of Virginia, means the division of a parcel of land into three or more lots or parcels of less than five acres each for the purpose of transfer of ownership or building development, or, if a new street is involved in such division, any division of a parcel of land. The term includes resubdivision and, when appropriate to the context, shall relate to the process of subdividing or to the land subdivided.

"Vegetated filter strip" means a densely vegetated section of land engineered to accept runoff as overland sheet flow from upstream development. It shall adopt any natural vegetated form, from grassy meadow to small forest. The vegetative cover facilitates pollutant removal through filtration, sediment deposition, infiltration and absorption, and is dedicated for that purpose.

"Water quality volume" means the volume equal to the first 1/2 inch of runoff multiplied by the impervious surface of the land development project.

"Watershed" means a defined land area drained by a river, stream or drainage ways or system of connecting rivers, streams, or drainage ways such that all surface water within the area flows through a single outlet.

4 VAC 3-20-30. Purposes.

The purposes of this chapter are to provide a framework for the administration, implementation and enforcement of the Act, while at the same time providing flexibility for innovative solutions to stormwater management issues.

4 VAC 3-20-40. Applicability.

This chapter is applicable to:

1. Every locality that establishes a local stormwater management program; and
2. Every state project.

PART II.
TECHNICAL CRITERIA.

4 VAC 3-20-50. Applicability.

This part specifies technical criteria for localities that establish a local stormwater management program and for state projects.

4 VAC 3-20-60. General.

A. Determination of flooding and channel erosion impacts to receiving streams due to land development projects shall be measured at each point of discharge from the development project and such determination shall include any runoff from the balance of the watershed which also contributes to that point of discharge.

B. The specified design storms shall be defined as either a 24-hour storm using the rainfall distribution recommended by the U.S. Soil Conservation Service when using U.S. Soil Conservation Service methods or as the storm of critical duration that produces the greatest required storage volume at the site when using a design method such as the Modified Rational Method.

C. For purposes of computing runoff, all pervious lands in the site shall be assumed prior to development to be in good condition (if the lands are pastures, lawns, or parks), with good cover (if the lands are woods), or with conservation treatment (if the lands are cultivated); regardless of conditions existing at the time of computation.

D. Construction of stormwater management facilities or modifications to channels shall comply with all applicable laws and regulations. Evidence of approval of all necessary permits shall be presented.

E. Impounding structures that are not covered by the Impounding Structure Regulations (4 VAC 50-20-10 et seq.) shall be engineered for structural integrity during the 100-year storm event.

F. Pre-development and post-development runoff rates shall be verified by calculations that are consistent with good engineering practices.

G. Outflows from a stormwater management facility shall be discharged to an adequate channel, and velocity dissipators shall be placed at the outfall of all stormwater management facilities and along the length of any outfall channel as necessary to provide a nonerosive velocity of flow from the basin to a channel.

H. Proposed residential, commercial, or industrial subdivisions shall apply these stormwater management criteria to the land development as a whole. Individual lots in new subdivisions shall not be considered separate land development projects, but rather the entire subdivision shall be considered a single land development project. Hydrologic parameters shall reflect the ultimate land development and shall be used in all engineering calculations.

I. All stormwater management facilities shall have a maintenance plan which identifies the owner and the responsible party for carrying out the maintenance plan.

J. Construction of stormwater management impoundment structures within a Federal Emergency Management Agency (FEMA) designated 100-year floodplain shall be avoided to the extent possible. When this is unavoidable, all stormwater management facility construction shall be in compliance with all applicable regulations under the National Flood Insurance Program, 44 CFR Part 59.

K. Natural channel characteristics shall be preserved to the maximum extent practicable.

L. Land development projects shall comply with the Virginia Erosion and Sediment Control Act and attendant regulations.

4 VAC 3-20-71. Water quality.

A. Compliance with the water quality criteria may be achieved by applying the performance-based criteria or the technology-based criteria to either the site or a planning area.

B. Performance-based criteria. For land development, the calculated post-development nonpoint source pollutant runoff load shall be compared to the calculated pre-development load based upon the average land cover condition or the existing site condition. A BMP shall be located, designed, and maintained to achieve the target pollutant removal efficiencies specified in Table 1 to effectively reduce the pollutant load to the required level based upon the following four applicable land development situations for which the performance criteria apply:

1. Situation 1 consists of land development where the existing percent impervious cover is less than or equal to the average land cover condition and the proposed improvements will create a total percent impervious cover which is less than the average land cover condition.

Requirement: No reduction in the after development pollutant discharge is required.

2. Situation 2 consists of land development where the existing percent impervious cover is less than or equal to the average land cover condition and the proposed improvements will create a total percent impervious cover which is greater than the average land cover condition.

Requirement: The pollutant discharge after development shall not exceed the existing pollutant discharge based on the average land cover condition.

3. Situation 3 consists of land development where the existing percent impervious cover is greater than the average land cover condition.

Requirement: The pollutant discharge after development shall not exceed (i) the pollutant discharge based on existing conditions less 10% or (ii) the pollutant discharge based on the average land cover condition, whichever is greater.

4. Situation 4 consists of land development where the existing percent impervious cover is served by an existing stormwater management BMP that addresses water quality.

Requirement: The pollutant discharge after development shall not exceed the existing pollutant discharge based on the existing percent impervious cover while served by the existing BMP. The existing BMP shall be shown to have been designed and constructed in accordance with proper design standards and specifications, and to be in proper functioning condition.

C. Technology-based criteria. For land development, the post-developed stormwater runoff from the impervious cover shall be treated by an appropriate BMP as required by the post-developed condition percent impervious cover as specified in Table 1. The selected BMP shall be located, designed, and maintained to perform at the target pollutant removal efficiency specified in Table 1. Design standards and specifications for the BMPs in Table 1 which meet the required target pollutant removal efficiencywill be available at the department.

Table 1*

Water Quality BMP	Target Phosphorus Removal Efficiency	Percent Impervious Cover
Vegetated filter strip	10%	16-21%
Grassed swale	15%	
Constructed wetlands	30%	
Extended detention (2 x WQ Vol)	35%	22 -37%
Retention basin I (3 x WQ Vol)	40%	
Bioretention basin	50%	
Bioretention filter	50%	
Extended detention-enhanced	50%	38 -66%
Retention basin II (4 x WQ Vol)	50%	
Infiltration (1 x WQ Vol)	50%	
Sand filter	65%	
Infiltration (2 x WQ Vol)	65%	67 -100%
Retention basin III (4 x WQ Vol with aquatic bench)	65%	

* Innovative or alternate BMPs not included in this table may be allowed at the discretion of the local program administrator or the Department. Innovative or alternate BMPs not included in this table which target appropriate nonpoint source pollution other than phosphorous may be allowed at the discretion of the local program administrator or the Department.

4 VAC 3-20-81. Stream channel erosion.

A. Properties and receiving waterways downstream of any land development project shall be protected from erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff in accordance with the minimum design standards set out in this section.

B. The plan approving authority shall require compliance with subdivision 19 of 4 VAC 50-30-40 of the Erosion and Sediment Control Regulations, promulgated pursuant to Article 4 (§ 10.1-560 et seq.) of Chapter 5 of Title 10.1 of the Code of Virginia.

C. The plan approving authority may determine that some watersheds or receiving stream systems require enhanced criteria in order to address the increased frequency of bankfull flow conditions brought on by land development projects. Therefore, in lieu of the reduction of the 2-year post-developed peak rate of runoff as required in subsection B of this section, the land development project being considered shall provide 24-hour extended detention of the runoff generated by the 1-year, 24-hour duration storm.

D. In addition to subsections B and C of this section, localities may, by ordinance, adopt more stringent channel analysis criteria or design standards to ensure that the natural level of channel erosion, to the maximum extent practicable, will not increase due to the land development projects. These criteria may include, but are not limited to, the following:

1. Criteria and procedures for channel analysis and classification.

2. Procedures for channel data collection.

3. Criteria and procedures for the determination of the magnitude and frequency of natural sediment transport loads.

4. Criteria for the selection of proposed natural or man-made channel linings.

4 VAC 3-20-85. Flooding.

A. Downstream properties and waterways shall be protected from damages from localized flooding due to increases in volume, velocity and peak flow rate of stormwater runoff in accordance with the minimum design standards set out in this section

B. The 10-year post-developed peak rate of runoff from the development site shall not exceed the 10-year pre-developed peak rate of runoff.

C. In lieu of subsection B of this section, localities may, by ordinance, adopt alternate design criteria based upon geographic, land use, topographic, geologic factors or other downstream conveyance factors as appropriate.

D. Linear development projects shall not be required to control post-developed stormwater runoff for flooding, except in accordance with a watershed or regional stormwater management plan.

4 VAC 3-20-86. Regional (watershed-wide) stormwater management plans.

This section enables localities to develop regional stormwater management plans. State agencies intending to develop large tracts of land such as campuses or prison compounds are encouraged to develop regional plans where practical.

The objective of a regional stormwater management plan is to address the stormwater management concerns in a given watershed with greater economy and efficiency by installing regional stormwater management facilities versus individual, site-specific facilities. The result will be fewer stormwater management facilities to design, build and maintain in the affected watershed. It is also anticipated that regional stormwater management facilities will not only help mitigate the impacts of new development, but may also provide for the remediation of erosion, flooding or water quality problems caused by existing development within the given watershed.

If developed, a regional plan shall, at a minimum, address the following:

1. The specific stormwater management issues within the targeted watersheds.

2. The technical criteria in 4 VAC 3-20-50 through 4 VAC 3-20-85 as needed based on subdivision 1 of this section.

3. The implications of any local comprehensive plans, zoning requirements and other planning documents.

4. Opportunities for financing a watershed plan through cost sharing with neighboring agencies or localities, implementation of regional stormwater utility fees, etc.

5. Maintenance of the selected stormwater management facilities.

6. Future expansion of the selected stormwater management facilities in the event that development exceeds the anticipated level.

PART III.
LOCAL PROGRAMS.

4 VAC 3-20-90. Applicability.

This part specifies technical criteria, minimum ordinance requirements, and administrative procedures for all localities operating local stormwater management programs.

4 VAC 3-20-101. Technical criteria for local programs.

A. All local stormwater management programs shall comply with the general technical criteria as outlined in 4 VAC 3-20-60.

B. All local stormwater management programs which contain provisions for stormwater runoff quality shall comply with 4 VAC 3-20-71. A locality may establish criteria for selecting either the site or a planning area on which to apply the water quality criteria. A locality may opt to calculate actual watershed specific or locality wide values for the average land cover condition based upon:

1. Existing land use data at time of local Chesapeake Bay Preservation Act Program or Department storm water management program adoption, whichever was adopted first,

2. Watershed or locality size, and

3. Determination of equivalent values of impervious cover for nonurban land uses which contribute nonpoint source pollution, such as agriculture, forest, etc.

C. All local stormwater management programs which contain provisions for stream channel erosion shall comply with 4 VAC 3-20-81.

D. All local stormwater management programs must contain provisions for flooding and shall comply with 4 VAC 3-20-85.

E. All local stormwater management programs which contain provisions for watershed or regional stormwater management plans shall comply with 4 VAC 3-20-101.

F. A locality that has adopted more stringent requirements or implemented a regional (watershed-wide) stormwater management plan may request, in writing, that the department consider these requirements in its review of state projects within that locality.

G. Nothing in this part shall be construed as authorizing a locality to regulate, or to require prior approval by the locality for, a state project.

4 VAC 3-20-111. Requirements for local program and ordinance.

A. At a minimum, the local stormwater management program and implementing ordinance shall meet the following:

1. The ordinance shall identify the plan-approving authority and other positions of authority within the program, and shall include the regulations and technical criteria to be used in the program.

2. The ordinance shall include procedures for submission and approval of plans, issuance of permits, monitoring and inspections of land development projects. The party responsible for conducting inspections shall be identified. The local program authority shall maintain, either on-site or in local program files, a copy of the approved plan and a record of all inspections for each land development project.

B. The department shall periodically review each locality's stormwater management program, implementing ordinance, and amendments. Subsequent to this review, the department shall determine if the program and ordinance are consistent with the state stormwater management regulations and notify the locality of its findings. To the maximum extent practicable the department will coordinate the reviews with other local government program reviews to avoid redundancy. The review of a local program shall consist of the following:

1. A personal interview between department staff and the local program administrator or his designee;

2. A review of the local ordinance and other applicable documents;

3. A review of plans approved by the locality and consistency of application;

4. An inspection of regulated activities; and

5. A review of enforcement actions.

C. Nothing in this chapter shall be construed as limiting the rights of other federal and state agencies from imposing stricter technical criteria or other requirements as allowed by law.

4 VAC 3-20-121. Administrative procedures: stormwater management plans.

A. Localities shall approve or disapprove stormwater management plans according to the following:

1. A maximum of 60 calendar days from the day a complete stormwater management plan is accepted for review will be allowed for the review of the plan. During the 60-day review period, the locality shall either approve or disapprove the plan and communicate its decision to the applicant in writing. Approval or denial shall be based on the plan's compliance with the locality's stormwater management program.

2. A disapproval of a plan shall contain the reasons for disapproval.

B. Each plan approved by a locality shall be subject to the following conditions:

1. The applicant shall comply with all applicable requirements of the approved plan, the local program, this chapter and the Act, and shall certify that all land clearing, construction, land development and drainage will be done according to the approved plan.

2. The land development project shall be conducted only within the area specified in the approved plan.

3. The locality shall be allowed, after giving notice to the owner, occupier or operator of the land development project, to conduct periodic inspections of the project.

4. The person responsible for implementing the approved plan shall conduct monitoring and submit reports as the locality may require to ensure compliance with the approved plan and to determine whether the plan provides effective stormwater management.

5. No changes may be made to an approved plan without review and written approval by the locality.

4 VAC 3-20-131. Administrative procedures: exceptions.

A. A request for an exception shall be submitted, in writing, to the locality. An exception from the stormwater management regulations may be granted, provided that: (i) exceptions to the criteria are the minimum necessary to afford relief and (ii) reasonable and appropriate conditions shall be imposed as necessary upon any exception granted so that the intent of the Act and this chapter are preserved.

B. Economic hardship is not sufficient reason to grant an exception from the requirements of this chapter.

4 VAC 3-20-141. Administrative procedures: maintenance and inspections.

A. Responsibility for the operation and maintenance of stormwater management facilities, unless

assumed by a governmental agency, shall remain with the property owner and shall pass to any successor or owner. If portions of the land are to be sold, legally binding arrangements shall be made to pass the basic responsibility to successors in title. These arrangements shall designate for each project the property owner, governmental agency, or other legally established entity to be permanently responsible for maintenance.

B. In the case of developments where lots are to be sold, permanent arrangements satisfactory to the locality shall be made to ensure continued performance of this chapter.

C. A schedule of maintenance inspections shall be incorporated into the local ordinance. Ordinances shall provide that in cases where maintenance or repair is neglected, or the stormwater management facility becomes a danger to public health or safety, the locality has the authority to perform the work and to recover the costs from the owner.

D. Localities may require right-of-entry agreements or easements from the applicant for purposes of inspection and maintenance.

E. Periodic inspections are required for all stormwater management facilities. Localities shall either:

1. Provide for inspection of stormwater management facilities on an annual basis; or

2. Establish an alternative inspection program which ensures that stormwater management facilities are functioning as intended. Any alternative inspection program shall be:

a. Established in writing;

b. Based on a system of priorities that, at a minimum, considers the purpose of the facility, the contributing drainage area, and downstream conditions; and

c. Documented by inspection records.

F. During construction of the stormwater management facilities, localities shall make inspections on a regular basis.

G. Inspection reports shall be maintained as part of a land development project file.

PART IV.
STATE PROJECTS.

4 VAC 3-20-210. Technical criteria and plan requirements for state projects.

A. This part specifies technical criteria and administrative procedures for all state projects.

B. Stormwater management plans prepared for state projects shall comply with the technical

criteria outlined in Part II (4 VAC 3-20-50 et seq.) of this chapter and, to the maximum extent practicable, any local stormwater management program technical requirements adopted pursuant to the Act. It shall be the responsibility of the state agency to demonstrate that the local program technical requirements are not practical for the project under consideration.

C. The department may establish criteria for selecting either the site or a planning area on which to apply the water quality criteria.

D. As a minimum, stormwater management plans and computations shall contain the following:

1. The location and the design of the proposed stormwater management facilities.

2. Overall site plan with pre-developed and post-developed condition drainage area maps.

3. Comprehensive hydrologic and hydraulic computations of the pre-development and post-development runoff conditions for the required design storms, considered individually.

4. Calculations verifying compliance with the water quality requirements.

5. A description of the requirements for maintenance of the stormwater management facilities and a recommended schedule of inspection and maintenance.

6. The identification of a person or persons who will be responsible for maintenance.

7. All stormwater management plans shall be appropriately sealed and signed by a professional in adherence to all minimum standards and requirements pertaining to the practice of that profession in accordance with Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 of the Code of Virginia and attendant regulations.

4 VAC 3-20-220. Requirements for stormwater management annual standards and specifications.

A. A request for approval of stormwater management standards and specifications may be submitted to the department by a state agency on an annual basis. At a minimum, the following certifications shall accompany the request:

1. Individual stormwater management plans shall be prepared for each of the state projects.

2. The stormwater management plans shall comply with the technical criteria as outlined in Part II (4 VAC 3-20-50 et seq.) of this chapter and, to the maximum extent practicable, any local stormwater management program technical requirements adopted pursuant to the Stormwater Management Act. It shall be the responsibility of the state agency to demonstrate that the local program technical requirements are not practical for the project under consideration.

3. An inspection and maintenance schedule shall be developed and implemented.

B. Copies of such stormwater management specifications and standards including, but not limited

to, design manuals, technical guides and handbooks, shall be submitted.

4 VAC 3-20-230. Administrative procedures: stormwater management plans.

A. Within 30 days after receipt of a complete stormwater management plan submitted by a state agency, the department shall approve or disapprove the plan.

1. The department shall transmit its decision in writing to the state agency which submitted the plan.

2. Disapproved plans shall be revised and resubmitted to the department.

B. Approval of a stormwater management plan for a state project shall be subject to the following conditions:

1. The state agency shall comply with all applicable requirements of the approved plan and this chapter, and shall certify that all land clearing, construction, land development, and drainage will be done according to the approved plan.

2. The land development shall be conducted only within the area specified in the approved plan.

3. No changes may be made to an approved plan without review and written approval by the department.

4. The department shall be notified one week prior to the pre-construction meeting and one week prior to the commencement of land disturbing activity.

5. The department shall conduct periodic inspections of the project to ensure compliance with the plan.

6. The department may require monitoring and reports from the state agency responsible for implementing the plan to ensure compliance with the plan and to determine if the measures required in the plan provide effective stormwater management.

C. Compliance with approved plans shall be subject to the following conditions:

1. Where inspections by department personnel reveal deficiencies in carrying out an approved plan, the responsible state agency shall be issued a notice to comply, with corrective actions specified and the deadline within which the work shall be performed.

2. Whenever the Commonwealth or any of its agencies fail to comply within the time provided in a notice to comply, the director may petition the secretary of a given secretariat or an agency head for a given state agency for compliance. Where the petition does not achieve timely compliance, the director shall bring the matter to the Governor for resolution.

3. Where compliance will require the appropriation of funds, the director shall cooperate with the appropriate agency head in seeking such an appropriation; where the director determines that an emergency exists, he shall petition the Governor for funds from the Civil Contingency Fund or other appropriate source.

4 VAC 3-20-241. Administrative procedures: exceptions.

A. A request for an exception shall be submitted, in writing, to the department. An exception from the stormwater management regulations may be granted, provided that: (i) exceptions to the criteria are the minimum necessary to afford relief and (ii) reasonable and appropriate conditions shall be imposed as necessary upon any exception granted so that the purpose and intent of the Act is preserved.

B. Economic hardship is not sufficient reason to grant an exception from the requirements of this chapter.

4 VAC 3-20-245. Administrative procedures: maintenance and inspections.

A. Responsibility for the operation and maintenance of stormwater management facilities shall remain with the state agency and shall pass to any successor or owner. If portions of the land are to be sold, legally binding arrangements shall be made to pass the basic responsibility to successors in title. These arrangements shall designate for each state project the property owner, governmental agency, or other legally established entity to be permanently responsible for maintenance.

B. At a minimum, a stormwater management facility shall be inspected on an annual basis and after any storm which causes the capacity of the facility principal spillway to be exceeded.

C. During construction of the stormwater management facilities, the department shall make inspections on a regular basis.

D. Inspection reports shall be maintained as part of the land development project file.

PART V.
REPORTING.

4 VAC 3-20-251. Reporting on stormwater management.

The department is required to report to the General Assembly on the extent to which stormwater management programs have reduced nonpoint source pollution to the Commonwealth's waters and mitigated the effects of localized flooding. In order to complete this report, localities with stormwater management programs and state agencies may be asked to voluntarily submit an annual report to the department. Such a request may suggest reporting of data on the number and types of stormwater management facilities installed in the preceding year, the drainage area or watershed size served, the receiving stream or hydrologic unit, a summary of monitoring data, if any, and other data useful in determining the effectiveness of the programs and BMP technologies in current use.

1-5 VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS

The following is a complete text of the Virginia Erosion and Sediment Control Regulations 4VAC50-30 amended by the Virginia Soil and Water Conservation Board, Effective March 22, 1995

§4VAC50-30-10 Definitions.

The following words and terms, when used in these regulations, shall have the following meaning, unless the context clearly indicates otherwise. In addition, some terms not defined herein are defined in §10.1-560 of the Erosion and Sediment Control Law.

"Act" means the Erosion and Sediment Control Law, Article 4 (§10.1-560 et seq.) of Chapter 5 of Title 10.1 of the Code of Virginia.

"*Adequate channel*" means a watercourse that will convey the designated frequency storm event without overtopping its banks or causing erosive damage to the bed, banks and overbank sections of the same.

"*Agreement in lieu of a plan*" means a contract between the program authority and the owner which specifies conservation measures which must be implemented in the construction of a single-family residence; this contract may be executed by the program authority in lieu of an erosion and sediment control plan.

"*Applicant*" means any person submitting an erosion and sediment control plan or an agreement in lieu of a plan for approval or requesting the issuance of a permit, when required, authorizing land-disturbing activities to commence.

"*Board*" means the Virginia Soil and Water Conservation Board.

"*Causeway*" means a temporary structural span constructed across a flowing watercourse or wetland to allow construction traffic to access the area without causing erosion damage.

"*Channel*" means a natural stream or manmade waterway.

"*Cofferdam*" means a watertight temporary structure in a river, lake, etc., for keeping the water from an enclosed area that has been pumped dry so that bridge foundations, dams, etc., may be constructed.

"*Dam*" means a barrier to confine or raise water for storage or diversion, to create a hydraulic head, to prevent gully erosion, or to retain soil, rock or other debris.

"*Denuded*" means a term applied to land that has been physically disturbed and no longer supports vegetative cover.

"*Department*" means the Department of Conservation and Recreation.

"*Development*" means a tract or parcel of land developed or to be developed as a single unit under single ownership or unified control which is to be used for any business or industrial purpose or is to contain three or more residential dwelling units.

"*Dike*" means an earthen embankment constructed to confine or control water, especially one built along the banks of a river to prevent overflow of lowlands; levee.

"*Director*" means the Director of the Department of Conservation and Recreation.

"*District*" or "soil and water conservation district" means a political subdivision of the Commonwealth organized in accordance with the provisions of Article 3 (§10.1-506 et seq.) of Chapter 5 of Title 10.1 of the Code of Virginia.

"*Diversion*" means a channel with a supporting earthen ridge on the lower side constructed across or at the bottom of a slope for the purpose of intercepting surface runoff.

"*Dormant*" refers to denuded land that is not actively being brought to a desired grade or condition.

"*Energy dissipator*" means a non-erodible structure which reduces the velocity of concentrated flow to reduce its erosive effects.

"*Erosion and* sediment control plan, *conservation plan*" or "*plan*," means a document containing material for the conservation of soil and water resources of a unit or group of units of land. It may include appropriate maps, an appropriate soil and water plan inventory and management information with needed interpretations, and a record of decisions contributing to conservation treatment. The plan shall contain all major conservation decisions and all information deemed necessary by the plan-approving authority to assure that the entire unit or units of land will be so treated to achieve the conservation objectives.

"*Flume*" means a constructed device lined with erosion-resistant materials intended to convey water on steep grades.

"*Hydraulic outlet structure*" means a control section composed of orifice(s), weir(s) and/or conduit(s) which release impounded runoff at a prescribed flowrate.

"*Hydrologic unit*" means a defined land area drained by a river/stream or system of connecting rivers/streams such that all surface water within the area flows through a single outlet.

"*Live watercourse*" means a definite channel with bed and banks within which concentrated water flows continuously.

"*Locality*" means a county, city or town.

"*Natural stream*" means nontidal waterways that are part of the natural topography. They usually maintain a continuous or seasonal flow during the year and are characterized as being irregular in

cross-section with a meandering course. Constructed channels such as drainage ditches or swales shall not be considered natural streams.

"*Nonerodible*" means a material, e.g., riprap, concrete, plastic, etc., that will not experience surface wear due to natural forces.

"*Person*" means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, county, city, town or other political subdivision of the Commonwealth, any interstate body, or any other legal entity.

"*Plan-approving authority*" means the Board, the program authority a department of a program authority, or an agent of the program authority responsible for determining the adequacy of a conservation plan submitted for land-disturbing activities on a unit or units of land and for approving plans.

"*Post-development*" refers to conditions that may be reasonably expected or anticipated to exist after completion of the land development activity on a specific site or tract of land.

"*Program administrator*" means the person or persons responsible for administering and enforcing the erosion and sediment control program of a program authority.

"Program authority" means a district, county, city, or town which has adopted a soil erosion and sediment control program which has been approved by the Board.

"*Pre-development*" refers to conditions at the time the erosion and sediment control plan is submitted to the plan-approving authority. Where phased development or plan approval occurs (preliminary grading, roads and utilities, etc.), the existing conditions at the time the erosion and sediment control plan for the initial phase is submitted for approval shall establish pre-development conditions.

"*Sediment basin*" means a temporary impoundment built to retain sediment and debris with a controlled stormwater release structure.

"*Sediment trap*" means a temporary impoundment built to retain sediment and debris which is formed by constructing an earthen embankment with a stone outlet.

"*Sheet flow*" (also called overland flow) means shallow, unconcentrated and irregular flow down a slope. The length of strip for overland flow usually does not exceed 200 feet under natural conditions.

Shore erosion control project" means an erosion control project approved by local wetlands boards, the Virginia Marine Resources Commission, the Virginia Department of Environmental Quality or the United States Army Corps of Engineers and located on tidal waters and within nonvegetated or vegetated wetlands as defined in Title 28.2 of the Code of Virginia.

"*Slope drain*" means tubing or conduit made of nonerosive material extending from the top to the bottom of a cut or fill slope with an energy dissipator at the outlet end.

"*Stabilized*" means land that has been treated to withstand normal exposure to natural forces without incurring erosion damage.

"*Storm sewer inlet*" means a structure through which stormwater is introduced into an underground conveyance system.

"*Stormwater detention*" means the process of temporarily impounding runoff and discharging it through a hydraulic outlet structure to a downstream conveyance system.

"*Temporary vehicular stream crossing*" means a temporary nonerodible structural span installed across a flowing watercourse for use by construction traffic. Structures may include bridges, round pipes or pipe arches constructed on or through nonerodible material.

"*Ten-year storm*" means a storm that is capable of producing rainfall expected to be equaled or exceeded on the average of once in 10 years. It may also be expressed as an exceedence probability with a 10% chance of being equaled or exceeded in any given year.

"Two-year storm" means a storm that is capable of producing rainfall expected to be equaled or exceeded on the average of once in two years. It may also be expressed as an exceedence probability with a 50% chance of being equaled or exceeded in any given year.

"Twenty-five-year storm" means a storm that is capable of producing rainfall expected to be equaled or exceeded on the average of once in twenty-five years. It may also be expressed as exceedence probability with a 4% chance of being equaled or exceeded in any given year.

§4VAC50-30-20 Purpose.

The purpose of these regulations is to form the basis for the administration, implementation and enforcement of the Act. The intent of these regulations is to establish the framework for compliance with the Act while at the same time providing flexibility for innovative solutions to erosion and sediment control concerns.

§4VAC50-30-30 Scope and Applicability.

A. These regulations set forth minimum standards for the effective control of soil erosion, sediment deposition and nonagricultural runoff that must be met:

1. In erosion and sediment control programs adopted by districts and localities under §10.1-562 of the Act.

2. In erosion and sediment control plans that may be submitted directly to the Board pursuant to §10.1-563 A of the Act;

3. In annual general erosion and sediment control specifications that electric and telephone utility companies and railroad companies are required to file with the Board pursuant to §10.1-563 D of the Act;

4. In conservation plans and annual specifications that state agencies are required to file with the Department pursuant to §10.1-564 of the Act; and

5. By federal agencies that enter into agreements with the Board.

B. The submission of annual specifications to the Board or the Department by any agency or company does not eliminate the need for a project specific erosion and sediment control plan.

C. These regulations must be incorporated into the local erosion and sediment control program within one year of their effective date.

§4VAC50-30-40 Minimum Standards.

An erosion and sediment control program adopted by a district or locality must be consistent with the following criteria, techniques and methods:

1. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 30 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

2. During construction of the project, soil stockpiles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.

3. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that, is uniform, mature enough to survive and will inhibit erosion.

4. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.

5. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.

6. Sediment traps and sediment basins shall be designed and constructed based upon the

total drainage area to be served by the trap or basin.

a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.

b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a twenty-five year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.

7. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.

8. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.

9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.

10. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.

11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.

12. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.

13. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.

14. All applicable federal, state and local regulations pertaining to working in or crossing live watercourses shall be met.

15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.

16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:

    a. No more than 500 linear feet of trench may be opened at one time.

    b. Excavated material shall be placed on the uphill side of trenches.

    c. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property.

    d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.

    e. Restabilization shall be accomplished in accordance with these regulations.

    f. Applicable safety regulations shall be complied with.

17. Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-disturbing activities.

18. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

19. Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria:

    a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system,

downstream stability analyses at the outfall of the pipe or pipe system shall be performed.

b. Adequacy of all channels and pipes shall be verified in the following manner:

(1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or

(2) (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks; and

(b) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and

(c) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.

c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:

(1) Improve the channel to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel bed or banks; or

(2) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances; or

(3) Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or

(4) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the plan-approving authority to prevent downstream erosion.

d. The applicant shall provide evidence of permission to make the improvements.

e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development of the subject project.

f. If the applicant chooses an option that includes stormwater detention he shall obtain approval from the locality of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.

g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.

h. All on-site channels must be verified to be adequate.

I. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.

j. In applying these stormwater runoff criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.

k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.

§4VAC50-30-50 Variances.

The plan-approving authority may waive or modify any of the regulations that are deemed inappropriate or too restrictive for site conditions, by granting a variance. A variance may be granted under these conditions:

1. At the time of plan submission, an applicant may request a variance to become part of the approved erosion and sediment control plan. The applicant shall explain the reasons for requesting variances in writing. Specific variances which are allowed by the plan-approving authority shall be documented in the plan.

2. During construction, the person responsible for implementing the approved plan may request a variance in writing from the plan-approving authority.
The plan-approving authority shall respond in writing either approving or disapproving such a request. If the plan-approving authority does not approve a variance within 10 days of receipt of the request, the request shall be considered to be disapproved. Following disapproval, the applicant may resubmit a variance request with additional documentation.

3. The plan-approving authority shall consider variance requests judiciously, keeping in

mind both the need of the applicant to maximize cost effectiveness and the need to protect off-site properties and resources from damage.

§4VAC50-30-60 Maintenance and Inspections.

A. All erosion and sediment control structures and systems shall be maintained, inspected and repaired as needed to insure continued performance of their intended function. A statement describing the maintenance responsibilities of the permittee shall be included in the approved erosion and sediment control plan.

B. Periodic inspections are required on all projects by the program authority. The program authority shall either:

a. provide for an inspection during or immediately following initial installation of erosion and sediment controls, at least once in every two-week period, within 48 hours following any runoff producing storm event, and at the completion of the project prior to the release of any performance bonds; or

b. Establish an alternative inspection program which ensures compliance with the approved erosion and sediment control plan. Any alternative inspection program shall be:

(1) Approved by the Board prior to implementation;

(2) Established in writing;

(3) Based upon a system of priorities that, at a minimum, address the amount of disturbed project area, site conditions and stage of construction; and
(4) Documented by inspection records.

§4VAC50-30-70 Developments.

A. An erosion and sediment control plan shall be filed for a development and the buildings constructed within, regardless of the phasing of construction.

B. If individual lots or sections in a residential development are being developed by different property owners, all land-disturbing activities related to the building construction shall be covered by an erosion and sediment control plan or an "Agreement in Lieu of a Plan" signed by the property owner.

C. Land-disturbing activity of less than 10,000 square feet on individual lots in a residential development shall not be considered exempt from the provisions of the act and these regulations if the total land-disturbing activity in the development is equal to or greater than 10,000 square feet.

§4VAC50-30-80 Criteria for Determining Status of Land-disturbing Activity.

A. The program administrator shall determine the validity of a claim of exempt status by a property owner who disturbs 10,000 square feet or more. As soon as a nonexempt status is determined, the requirements of the Act shall be immediately enforced.

B. Should a land-disturbing activity not begin during the 180-day period following plan approval or cease for more than 180 days, the plan-approval authority or the permit-issuing authority may evaluate the existing approved erosion and sediment control plan to determine whether the plan still satisfies local and state erosion and sediment control criteria and to verify that all design factors are still valid. If the authority finds the previously filed plan to be inadequate, a modified plan shall be submitted and approved prior to the resumption of land-disturbing activity.

C. Shore erosion control projects are not subject to these regulations. However, land-disturbing activity immediately outside the limits of the shore erosion project is subject to the Act and these regulations.

D. Whenever land-disturbing activity involves activity at a separate location (including but not limited to borrow and disposal areas), the program authority may either:

1. Consider the off-site activity as being part of the proposed land-disturbing activity; or,

2. If the off-site activity is already covered by an approved erosion and sediment control plan, the program authority may require the applicant to provide proof of the approval and to certify that the plan will be implemented in accordance with the Act and these regulations.

§4VAC50-30-90 Review and Evaluation of Local Programs: Minimum Program Standards

A. This section sets forth the criteria that will be used by the Department to determine whether a local program operating under authority of the Act, satisfies minimum standards of effectiveness, as follows.

Each local program must contain an ordinance or other appropriate document(s) adopted by the governing body. Such document(s) must be consistent with the Act and 4VAC50-30 and 4VAC50-50, including the following criteria:

1. The document(s) shall include or reference the definition of land-disturbing activity including exemptions, as well as any other significant terms, as necessary to produce an effective local program.

2. The document(s) shall identify the plan-approving authority and other positions of authority within the program, and must include the regulations and design standards to be used in the program.

3. The document(s) shall include procedures for submission and approval of plans, issuance of permits, monitoring and inspections of land-disturbing activities. The position, agency, department, or other party responsible for conducting inspections shall be identified. The local program authority shall maintain, either on-site or in local program files, a copy of the approved plan and a record of inspections for each active land-disturbing activity.

4. The local program authority must take appropriate enforcement actions to achieve compliance with the program and maintain a record of enforcement actions for all active land-disturbing activities.

B. The Department staff, under authority of the Board, shall periodically conduct a comprehensive review and evaluation of local programs. The review of a local program shall consist of the following: (1) personal interview between the Department staff and the local program administrator or designee(s); (2) review of the local ordinance and other applicable documents; (3) review of plans approved by the program; (4) inspection of regulated activities; (5) review of enforcement actions.

C. Local programs shall be reviewed and evaluated for effectiveness in carrying out the Act using the criteria in this section. However, the Director is not limited to the consideration of only these items when assessing the overall effectiveness of a local program.

D. If the Director determines that the deficiencies noted in the review will cause the local erosion and sediment control program to be inconsistent with the state program and regulations, the Director shall notify the local program authority concerning the deficiencies and provide a reasonable period of time for corrective action to be taken. If the program authority fails to take the corrective action within the specified time, the Director may formally request Board action pursuant to Code of Virginia §10.1-562.

E. Review and evaluation of local programs shall be conducted according to a schedule adopted by the Board.

§4VAC50-30-100 <u>State Agency Projects</u>

A. All state agency land-disturbing activities that are not exempt and that have commenced without an approved erosion and sediment control plan shall immediately cease until an erosion and sediment control plan has been submitted to and approved by the Department. A formal "Notice of Plan Requirement" will be sent to the state agency under whose purview the project lies since that agency is responsible for compliance with the Act.

B. Where inspections by Department personnel reveal deficiencies in carrying out an approved plan, the person responsible for carrying out the plan, as well as the state agency responsible, will be issued a notice to comply with specific actions and the deadlines that shall be met. Failure to meet the prescribed deadlines can result in the issuance of a stop work order for all land-disturbing activities on the project at the discretion of the Director of the Department or his designee who is authorized to sign such an order. The stop work order will be lifted once the required erosion and sediment control measures are in place and inspected by department staff.

C. Whenever the Commonwealth or any of its agencies fails to comply within the time provided in an appropriate final order, the Director of the Department may petition for compliance as follows: For violations in the Natural Resources Secretariat, to the Secretary of Natural Resources; for violations in other secretariats, to the appropriate secretary; for violations in other state agencies, to the head of such agency. Where
the petition does not achieve timely compliance, the Director shall bring the matter to the Governor for resolution.

D. Where compliance will require the appropriation of funds, the Director shall cooperate with the appropriate agency head in seeking such an appropriation; where the Director determines that an emergency exists, he shall petition the Governor for funds from the Civil Contingency Fund or other appropriate source.

§4VAC50-30-110 Board Adopted Local Erosion and Sediment Control Programs

A. To carry out its duties under §10.1-562, the Board shall develop, adopt, and administer an appropriate local erosion and sediment control program for the locality under consideration. In fulfilling these duties, the Board shall assume the full powers of the local erosion and sediment control program granted by law.

B. The Board shall develop, adopt and administer a local erosion and sediment control program based on the minimum program standards established by these regulations and, as deemed appropriate by the Board, may include any or all of the provisions provided by law and regulations including administrative fees and performance securities.

C. Upon adoption of a local erosion and sediment control program by the Board, payment of monies including fees, securities, and penalties shall be made to the state treasury.

D. When administering a local erosion and sediment control program the Board may delegate to the Director such operational activities as necessary. Further, the Board may enter into agreements with other public or private entities to accomplish certain program responsibilities as it deems necessary to administer the local program.